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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/649,450

08/26/2003

Michael Doogue

ALLEG-039PUS

5775

22494

7590

11/16/2005

DALY, CROWLEY, MOFFORD & DURKEE, LLP
SUITE 301A
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CANTON, MA 02021-2714

EXAMINER

NGO, HUNG V

ART UNIT

PAPER NUMBER

2831

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/649,450	Applicant(s) DOOGUE ET AL.	
	Examiner Hung V. Ngo	Art Unit 2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-35 is/are pending in the application.
4a) Of the above claim(s) 4-8, 19-24, 34, 35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 9-11, 13-18, 25, 27-30, 32 and 33 is/are rejected.
- 7) ☒ Claim(s) 12, 26 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Fig 6, claims 1, 9-18, 25-33 in the reply filed on 08-26-05 is acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 9-11, 13, 17, 18, 25, 27-30, 32, 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Steiner et al (US 6,356,068).

Steiner et al disclose a lead frame having a plurality of leads (4),
a current conductor portion comprising a coupling of at least two of the plurality of leads (Fig 1);

a substrate (1) having a first surface proximate to said current conductor portion and a second surface distal from said current conductor portion; and
one or more magnetic field transducers (2) disposed on the first surface of said substrate, wherein said substrate is disposed having the first surface of said

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substrate above said current conductor portion and the second surface above the first surface when the leads are in electrical contact with an uppermost surface of the circuit board (Fig. 4)(re claims 1, 25, 28-30, 33).

Regarding claim 9, said substrate is associated with a selected one of a solder ball, a gold bump, a eutectic and high lead solder bump, a no-lead solder bump, a gold stud bump, a polymeric conductive bump, an anisotropic conductive paste, and a conductive film (9, 10) coupled to a corresponding one of the plurality of leads (Fig 5).

Regarding claim 10, the transducers 2 are on opposite sides of a current conductor portion axis (Fig 5).

Regarding claim 11, predetermined voltage polarities could be found via rotating the transducers.

Regarding claims 13, 27, 32, at least a portion of said current conductor portion has a rectangular cross section having a minimum dimension less than a thickness of said lead frame.

Regarding claim 17, a flux concentrator disposed proximate said one or more magnetic field transducers 21 as shown in Fig. 9.

Regarding claim 18, a flux concentrating layer 22 disposed proximate the second surface of said substrate (col. 7, lines 44-47).

Regarding claim 24, the predetermined shape comprises a rectangular shape having a minimum dimension less than a thickness of said lead frame.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-16, are rejected under 35 U.S.C. 103(a) as being unpatentable over Steiner et al. (U56,356,068) in view of Ohtsuka (US 6,683,448).

Regarding claims 14-16, Steiner et al. does not disclose at least one amplifier disposed on said substrate.

Ohtsuka teaches a current detector having an amplifier (COI. 3, line 50). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have amplifiers as taught by Ohtsuka, in order to input control current, and the electrodes to the amplifier for putting out a Hall voltage.

Response to Arguments

Applicant's arguments filed 01-10-05 have been fully considered but they are not persuasive.

Applicant argues (1) Steiner et al do not teach or suggest wherein said substrate is disposed having the first surface of said substrate above said current conductor portion and the second surface above the first surface when the leads are in electrical contact with an uppermost surface of the circuit board.

With respect to (1), see Fig 4 of Steiner et al.

Allowable Subject Matter

Claims 12, 20, 23, 26, 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art alone or in combination does not teach or fairly suggest an integrated circuit comprising a current conductor portion having a T shaped cross section, taken in combination with the other claimed features.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung V. Ngo whose telephone number is (571) 272-1979. The examiner can normally be reached on Monday to Thursday 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A. Reichard can be reached on (571) 272-2800 EXT 31. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HVN
11-12-05

Hung V Ngo

**HUNG V. NGO
PRIMARY EXAMINER**